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NOTICE OF ALLOWANCE AND FEE(S) DUE

22852 7590 03/05/2010

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP

901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413 EXAMINER ABU ALL SHUANGYI

ART UNIT PAPER NUMBER

1793 DATE MAILED: 03/05/2010

 APPELCATION NO.
 FIELNO DATE
 FIRST NAMED INVENTOR
 ATTORNEY DOCKSET NO.
 CONFREMATION NO.

 10/511,203
 08/22/2005
 Christopher Nutbeum
 07812,0050-00
 8623

TITLE OF INVENTION: PAPER COATING PIGMENTS

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | NO | \$1510 | \$300 | \$0 | \$1810 | 06/07/2010 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

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II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

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| INSTRUCTIONS: This f appropriate. All further coindicated unless corrected maintenance fee notification | form should be used for orrespondence including to below or directed oth ons. | or trang the | smitting the ISSU Patent, advance of in Block 1, by (a | | | | | hould be completed where correspondence address as trate "FEE ADDRESS" for |
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| WASHINGTON, | | | | Γ | | (| ., | (Depositor's name) |
| | | | | | | | | (Signature) |
| | | | | | | | | (Date) |
| APPLICATION NO. | FILING DATE | | | FIRST NAMED INVENTO | R | ATTO | DRNEY DOCKET NO. | CONFIRMATION NO. |
| 10/511,203 | 08/22/2005 | | | Christopher Nutbeem | | 07812.0050-00 | | 8623 |
| TITLE OF INVENTION: | PAPER COATING PIC | BMEN | TS | | | | | |
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| nonprovisional | NO | | \$1510 | \$300 | \$0 | | \$1810 | 06/07/2010 |
| EXAMI | NER | | ART UNIT | CLASS-SUBCLASS | 7 | | | |
| ABU ALI, SE | IUANGYI | | 1793 | 106-486000 | _ | | | |
| 1. Change of corresponder CFR 1.363. Change of corresponder of corresponderses from FTO/SB/ TFee Address 'indic FTO/SB/47; Rev 03-02 Number is required. 3. ASSIGNEE NAME AN PLEASE NOTE: UNION ASSIGNED NAME OF ASSIGNED | ndence address (or Cha 122) attached. atton (or "Fee Address" or more recent) attach ID RESIDENCE DATA ss an assignee is identi in 37 CFR 3.11. Comp | nge of 'Indiced. Us | Correspondence ation form e of a Customer | | to 3 registered pater tively, gle firm (having as a agent) and the nam torneys or agents. If e printed. type) patent. If an assign assignment. | nt attor a memi nes of u no nar | per a 2pto ne is 3dentified below, the de | ocument has been filed for |
| Please check the appropria | te assignee category or | catego | ories (will not be pr | inted on the patent): | Individual C | orporat | ion or other private gro | oup entity Government |
| 4a. The following fee(s) are submitted: Issue Fee Publication Fee (No small entity discount permitted) Advance Order - # of Copies | | | | A. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) A check is enclosed. Payment by credit card. Form PTO-2038 is attached. The Director is hereby suthorized to charge the required fee(s), any deficiency, or credit any overpayment, to Depoid Account Number (enclose an extra copy of this form). | | | | |
| Change in Entity Statu a. Applicant claims | SMALL ENTITY statu | s. See | 37 CFR 1.27. | ☐ b. Applicant is no le | nger claiming SMA | LLEN | TITY status. Sec 37 Cl | FR 1.27(g)(2). |
| NOTE: The Issue Fee and interest as shown by the re | Publication Fee (if requeered of the United Sta | ired) tes Pat | will not be accepted ent and Trademark | d from anyone other than Office. | the applicant; a reg | istered | attorney or agent; or th | ne assignee or other party in |
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| Typed or printed name | | | | Registration No. | | | | |
| This collection of informal an application. Confidenti- submitting the completed this form and/or suggestion Box 1450, Alexandria, Vir Alexandria, Virginia 2231. | tion is required by 37 C ality is governed by 35 application form to the ns for reducing this bur rginia 22313-1450. DC 3-1450. | FR 1.3 U.S.C USPT den, sl NOT | 11. The informatic 122 and 37 CFR O. Time will vary hould be sent to th SEND FEES OR | on is required to obtain on 1.14. This collection is a depending upon the ince Chief Information OfficoMPLETED FORMS | retain a benefit by stimated to take 12 ividual case. Any co cer, U.S. Patent and IO THIS ADDRES: | the pub minute ommen Trader S. SEN | lic which is to file (and s to complete, includin ts on the amount of tir nark Office, U.S. Dep D TO: Commissioner | by the USPTO to process) g gathering, preparing, and me you require to complete artment of Commerce, P.O. for Patents, P.O. Box 1450, |

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| 10/511,203 08/22/2005 | Christopher Nutbeem | 07812.0050-00 | 8623 | |
| 22852 7590 03/05/2010 | EXAMINER | | | |
| FINNEGAN, HENDERSON, FARABOW, GARRE | ABU ALI, SHUANGYI | | | |
| LLP | | ART UNIT | PAPER NUMBER | |
| 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413 | 1793 DATE MAII ED: 03/05/201 | • | | |

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 359 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 359 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Application No. Applicant(s) 10/511.203 NUTBEEM ET AL. Notice of Allowability Examiner Art Unit SHUANGYI ARLI ALL 1793 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308. This communication is responsive to 12/07/2009. The allowed claim(s) is/are 15-69. 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). b) \(\subseteq \text{Some* c} \) \(\subseteq \text{None of the:} \) 1. T Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). * Certified copies not received: _____. Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) Including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached 1) hereto or 2) to Paper No./Mail Date (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d). 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL. Attachment(s) 1. | Notice of References Cited (PTO-892) 5. Notice of Informal Patent Application 2. Notice of Draftperson's Patent Drawing Review (PTO-948) Interview Summary (PTO-413), Paper No./Mail Date Information Disclosure Statements (PTO/SB/08). 7. X Examiner's Amendment/Comment Paper No./Mail Date 4. T Examiner's Comment Regarding Requirement for Deposit 8. X Examiner's Statement of Reasons for Allowance of Biological Material 9. ☐ Other . /Shuangyi Abu-Ali/

Examiner, Art Unit 1793

Art Unit: 1793

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Christopher Kent on 02/04/2010.

The application has been amended as follows:

- 15. (Currently Amended) A pigment composition comprising:
- (a) a precipitated calcium carbonate comprising-a mixture_of aragonitic particle shapes and rhombohedral particle shapes in a weight ratio ranging from 40:60 to 60:40 <u>based</u> on aragonitic: rhombohedral, and
- (b) a kaolin clay with a shape factor greater than 25 and a steepness greater than or equal to about 20.
- 61. (Currently Amended) A coating composition for paper and other substrates, the composition comprising an aqueous suspension of a particulate pigment according to claim 15 and a binder, wherein the particulate pigment comprises: (a) a precipitated calcium carbonate comprising particle shapes chosen from predominantly aragonitic, predominantly rhombohedral, and mixtures thereof, and (b) a kaolin clay with a shape factor greater than or equal to about 25 and a steepness greater than or equal to about 20.

Application/Control Number: 10/511,203 Page 3

Art Unit: 1793

65. (Currently Amended) A method for preparing a coating composition comprising an aqueous suspension of a particulate pigment according to claim 15 and a binder wherein the particulate pigment comprises: a precipitated calcium carbonate comprising particle chapes chosen from predominantly aragonitic, predominantly rhombohedral, and mixtures thereof, and a kaolin clay with a shape factor greater than or equal to about 25 and a steepness greater than or equal to about 20, comprising: mixing the particulate pigment and the binder into an aqueous liquid medium to prepare a suspension of the solid components therein.

- 66. (Currently Amended) A method for preparing a coated gloss paper comprising: applying to the paper a composition comprising an aqueous suspension of a particulate pigment according to claim 15 and a binder, wherein the particulate pigment comprises: a precipitated calcium carbonate comprising particle shapes chosen from predominantly aragonitic, predominantly rhombohedral, and mixtures thereof, and a kaolin clay with a shape factor greater than or equal to about 25 and a steepness greater than or equal to about 20 to coat the paper, and calendering the paper to form a gloss coating thereon.
- 67. (Currently Amended) A paper coated with a gloss coating comprising a dry residue of a composition comprising an aqueous suspension of a particulate pigment according to claim 15 and a binder, wherein the particulate pigment comprises: a precipitated calcium carbonate comprising particle shapes chosen from predominantly aragonitic, predominantly rhombohedral, and mixtures thereof, and a kaolin clay with a shape

Application/Control Number: 10/511,203 Page 4

Art Unit: 1793

factor greater than or equal to about 25 and a steepness greater than or equal to about 20.

70. (Cancelled)

Allowable Subject Matter

Claims 15-60 are allowed.

Claims 15-60 are allowable. Claims 61-69, previously withdrawn from consideration as a result of a restriction requirement, require all the limitations of an allowable claim. Pursuant to the procedures set forth in MPEP § 821.04(a), the restriction requirement among inventions I-V, as set forth in the Office action mailed on 01/17/2008, is hereby withdrawn and claims 61-69 hereby rejoined and fully examined for patentability under 37 CFR 1.104. In view of the withdrawal of the restriction requirement, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

The following is an examiner's statement of reasons for allowance: The instant application discloses a composition comprising a precipitated calcium carbonate, which is a mixture of aragonitic particle shapes and rhombohedral particle shapes in a weight ratio ranging from 40:60 to 60:40 aragonitic:rhombohedral and a kaolin clay with a

Application/Control Number: 10/511,203

Art Unit: 1793

shape factor greater than 25 and a steepness greater than or equal to 20. The closest art is combined teaching of U. S. Patent No. 6,758, 895 to Wesley, and U.S. Patent No. 5, 833, 747 to Bleakly et al, which discloses a composition comprising PCC and kaolin. But they fail to disclose the ratio of the aragonitic to rhombohedral as applicant set forth in claim 15.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHUANGYI ABU ALI whose telephone number is (571)272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/511,203 Page 6

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENGO/ Supervisory Patent Examiner, Art Unit 1793

/Shuangyi Abu-Ali/ Examiner, Art Unit 1793